Amendment to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

CLAIMS 1-50. (Cancelled)

CLAIM 51. (previously presented) A protocol for use in an ad hoc, peer to peer radio system comprising a series of terminals where each said terminal is capable of making at least one of an outgoing call or receiving an incoming call, and where each said terminal comprising computer means, memory means for storing program software means therein, and where each said terminal is capable of being hop of a routing path connecting a call from a source to a destination, comprising:

software means for said memory means of each said terminal, said software means comprising means for transmitting and receiving signals based on time-division messaging;

said signals being transmitted during a series of time frames (TM) each divided into a series of time slots (TS);

said at least one time slot transmitting traffic control signals at a first frequency of F0, and said other time slots (TS) transmitting data signals at frequencies of F1, F2, and F3, respectively;

each said time frame (TF) comprising an inter-frame time gap (IFTG) at the end of each said time frame (TF) in which no signals are transmitted, whereby each said terminal is allowed time to perform necessary calculations.

CLAIM 52. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 51, wherein said inter frame time gap (ITFG) could have a length different than said time slots.

CLAIM 53. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 52, wherein the length of each said time slot for transmitting said traffic control signals is equal to each other.

CLAIM 54. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 51, wherein the length of each said time slot for transmitting said traffic control signals is equal to each other.

CLAIM 55. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 54, wherein each said time frame (TF) further comprises a last time slot (LTS); said software means further comprising means for generating initial said traffic control signals in a respective said last time slot (LTS) of a respective said time frame (TF) indicating initial presence of a respective said terminal in order to start communicating with other said terminals.

CLAIM 56. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 55, wherein said software means further comprises means for switching transmission of initial said traffic control signals from said last time slot (LTS) to another, free, earlier time slot of a subsequent time frame (TF) in order to reduce the chance of collision with other said terminals also initially registering.

CLAIM 57. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 56, wherein said initial traffic control signals in said last time slot (LTS) and in said another, free, earlier time slot of a subsequent time frame (TF) are transmitted at said frequency F0.

CLAIM 58. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 55, wherein said software means comprises means for encoding the initial traffic control signals in said last time slot (LTS) using code-division multiple access (CDMA), whereby collisions in said last time slot (LTS) are avoided.

CLAIM 59. (Previously presented) The protocol for use in an ad hoc, peer to peer radio system according to claim 51, wherein said at least one time slot (TS) for said traffic control signals is transmitted at a maximum power level, and said other time slots (TS) for said data-signals are transmitted at a computed power level.

CLAIM 60. (Previously presented) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 59, wherein said computed power level is equal to or less than said ~~first~~ maximum power level, whereby radio frequency (RF) interference is reduced.

CLAIM 61. (currently amended) A method of transmitting radio calls in an ad-hoc, peer-to-peer radio system comprising a series of radio terminals forming a service group, each said radio terminal comprising transceiver means for transmitting and receiving signals from other like terminals of said series of terminals in the same service group, computer means and memory means for storing program software means therein, comprising:

(a) establishing a ~~a~~ connection with a said radio terminal based on time-division access;

(b) said step (a) comprising transmitting and receiving control and data signals as a series of time frames (TF) with each said time frame consisting of a plurality of time slots (TS);

(c) said step (b) comprising dedicating one said time slot for use as a configuration channel for transmitting information useful in establishing a routing path of a call;

(d) said step (b) further comprising dedicating other of said time slots for use as a data channels for transmitting the actual call information based on the class of service (COS) of the call;

(e) said step (b) further comprising forming an inter-frame time gap (IFTG) between said time frames (TF) during which each radio terminal may process said data received from another one of the terminals.

CLAIM 62. (Previously presented) The method of transmitting radio calls in an ad-hoc, peer-to-peer radio system according to claim 61, wherein said step (e) comprises making the length of said inter frame time gap (IFTG) longer than the lengths of said time slots (TS).

CLAIM 63. (Currently Amended) A ~~The~~ method of transmitting radio calls in an ad-hoc, peer-to-peer radio system ~~according to claim 61,~~ comprising a series of radio terminals forming a service group, each said radio terminal comprising transceiver means for transmitting and receiving signals from other like terminals of said series of terminals in the same service group, computer means and memory means for storing program software means therein, ~~further~~ comprising ~~before said step (a)~~:

(a) ~~(f)~~ initiating an outgoing call from one said radio terminal;

(b) ~~(g)~~ said step (a) ~~(f)~~ comprising registering with another said radio terminal for serving as a node in the call connection by transmitting a registration request;

(c) ~~(h)~~ said step (b) ~~(g)~~ comprising initially transmitting said registration request on a last of said time slots (TS) of a respective said time frame (TF), said last time slot serving as said configuration channel;

(d) establishing a connection with a said radio terminal based on time-division access;

(e) said step (d) comprising transmitting and receiving control and data signals as a series of time frames (TF) with each said time frame consisting of a plurality of time slots (TS);

(f) said step (e) comprising dedicating one said time slot for use as a configuration channel for transmitting information useful in establishing a routing path of a call;

(g) said step (e) further comprising dedicating other of said time slots for use as a data channels for transmitting the actual call information based on the class of service (COS) of the call;

(h) said step (e) further comprising forming an inter-frame time gap (IFTG) between said time frames (TF) during which each radio terminal may process said data received from another one of the terminals.

CLAIM 64. (Previously presented) The method of transmitting radio calls in an ad-hoc, peer-to-peer radio system according to claim 63, further comprising after said step (h):

(i) selecting in a time frame (TF), subsequent to said respective said time frame in which said registration messaging was sent by said step (h), a time slot (TS) earlier than said last time slot of said subsequent time frame as said configuration channel for transmitting configuration messaging.

CLAIM 65. (Previously presented) A protocol for use in a network of terminals each having computer means, memory means for storing program, and software means therein, said software means of each said terminal comprising means for transmitting and receiving signals based on time division messaging, said signals comprising a series of time frames (TF) each divided into a series of time slots (TS) comprising at least one time slot in which control signals are transmitted, and other time slots in which is transmitted data signals, the improvement comprising:

said at least one time slot transmitting said control signals at a first frequency of F0, and said other time slots (TS) transmitting said data signals at different respective frequencies;

each said time frame (TF) comprising an inter-frame time gap (IFTG) at the end of each said time frame (TF) in which no signals are transmitted, whereby each said terminal is allowed time to perform necessary calculations.

CLAIM 66. (Previously presented) The protocol according to claim 65, wherein said inter-frame time gap (ITFG) has a length different than said time slots.

CLAIM 67. (Previously presented) The protocol according to claim 66, wherein each said time frame (TF) further comprises a last time slot (LTS); said software means further comprising means for generating initial said control signals in a respective said last time slot (LTS) of a respective said time frame (TF) indicating initial presence of a respective said terminal in order to start communicating with other said terminals.

CLAIM 68. (Previously presented) The protocol according to claim 67, wherein said software means further comprises means for switching transmission of said initial control signals from said last time slot (LTS) to another, free, earlier time slot of a subsequent time frame (TF) in order to reduce the chance of transmission collision with other said terminals.

CLAIM 69. (Previously presented) The protocol according to claim 68, wherein said initial control signals are transmitted in said last time slot (LTS) and in said another, free, earlier time slot of a subsequent time frame (TF) are transmitted at said first frequency.

CLAIM 70. (Previously presented) The protocol according to claim 67, wherein said software means comprises means for encoding the control signals in said last time slot (LTS) using carrier sensing multiple access (CSMA), whereby collisions in said last time slot (LTS) are avoided.

CLAIM 71. (Previously presented) The protocol according to claim 67, wherein said at least one time slot (TS) for said control signals is transmitted at a first power level, and said other time slots (TS) for said data channel (DC) information are transmitted at a second power level.

CLAIM 72. (Currently Amended) A ~~The~~ protocol ~~according to claim 71,~~ for use in a network of terminals each having computer means, memory means for storing program, and software means therein, said software means of each said terminal comprising means for transmitting and receiving signals based on time division messaging, said signals comprising a series of time frames (TF) each divided into a series of time slots (TS) comprising at least one time slot in which control signals are transmitted, and other time slots in which is transmitted data signals, the improvement comprising:

said at least one time slot transmitting said control signals at a first frequency of F0, and said other time slots (TS) transmitting said data signals at different respective frequencies;

each said time frame (TF) comprising an inter-frame time gap (IFTG) at the end of each said time frame (TF) in which no signals are transmitted, wherein said inter-frame time gap (ITFG) has a length different than said time slots, whereby each said terminal is allowed time to perform necessary calculations,

wherein each said time frame (TF) further comprises a last time slot (LTS); said software means further comprising means for generating initial said control signals in a respective said last time slot (LTS) of a respective said time frame (TF) indicating initial presence of a respective said terminal in order to start communicating with other said terminals,

wherein said at least one time slot (TS) for said control signals is transmitted at a first power level, and said other time slots (TS) for said data channel (DC) information are transmitted at a second power level, wherein said second power level is equal to or less than said first power level and is computed according to quality reports received from all said terminals in a service group.

CLAIM 73. (Original) A protocol for use in an ad hoc, peer to peer radio system comprising a series of terminals where each said terminal is capable of making at least one of an outgoing call or receiving an incoming call, and where each said terminal comprising computer means, memory means for storing program software means therein, and where each said terminal is capable of being hop of a routing path connecting a call from a source to a destination, comprising:

software means for said memory means of each said terminal, said software means comprising means for generating communications information for transmission based on time-division messaging;

said communications-information comprising a series of time frames (TM) each divided into a series of time slots (TS); said communications-information comprising at least one time slot in which control-channel (CC) messaging information is transmitted, and other time slots in which is transmitted channel data (CD) messaging information;

said at least one time slot transmitting said control-channel information at a first frequency of F0, and said other time slots (TS) transmitting said data channel (DC) information at frequencies of F1, F2, and F3, respectively;

each said time frame (TF) comprising an inter-frame time gap (IFTG) at the end of each said time frame (TF) in which no communications-information is transmitted, whereby each said terminal is allowed time to perform necessary calculations;

wherein the length of each said time slot for transmitting said communications-information is equal to each other;

each said time frame (TF) further comprises a last time slot (LTS); and

said software means further comprises means for generating initial control communications-information in a respective said last time slot (LTS) of a respective said time frame (TF) indicating initial presence of a respective said terminal in order to start communicating with other said terminals.

CLAIM 74. (Original) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 73, wherein said software means further comprises means for switching transmission of initial control communications information from said last time slot (LTS) to another, free, earlier time slot of a subsequent time frame (TF) in order to reduce the chance of collision with other said terminals also initially registering.

CLAIM 75. (Original) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 74, wherein said initial control communications-information in said last time slot (LTS) and in said another, free, earlier time slot of a subsequent time frame (TF) are transmitted at said frequency F0.

CLAIM 76. (Original) The protocol for use in an ad-hoc, peer-to-peer radio system according to claim 73, wherein said software means comprises means for encoding the communications-information in said last time slot (LTS) using code-division multiple access (CDMA), whereby collisions in said last time slot (LTS) are avoided.

CLAIM 77. (Original) A method of transmitting radio calls in an ad-hoc, peer-to-peer radio system comprising a series of radio terminals forming a service group, each said radio terminal comprising transceiver means for transmitting and receiving signals from other like terminals of said series of terminals, computer means and memory means for storing program software means therein, comprising:

(a) initiating an outgoing call from one said radio terminal;

(b) establishing a call from a said radio terminal based on time-division access;

(c) said step (b) comprising creating messaging consisting of a series of time frames (TF) with each said time frame consisting of a plurality of time slots (TS);

(d) said step (c) comprising dedicating one said time slot for use as a configuration channel for transmitting information useful in establishing a routing path of a call;

(e) said step (c) further comprising dedicating other of said time slots for use as a data channels for transmitting the actual call information based on the class of service (COS) of the call;

(f) said step (c) further comprising forming an inter-frame time gap (IFTG) between said time frames (TF) during which each radio terminal may process said data received from another terminal;

(g) said step (a) comprising registering with another said radio terminal for serving as a node in the call connection by transmitting a registration request; and

(h) said step (g) comprising initially transmitting said registration request on a last of said time slots (TS) of a respective said time frame (TF), said last time slot serving as said configuration channel.

CLAIM 78. (Original) The method of transmitting radio calls in an ad-hoc, peer-to-peer radio system according to claim 77, further comprising after said step (h):

(i) selecting in a time frame (TF), subsequent to said respective said time frame in which said registration messaging was sent by said step (h), a time slot (TS) earlier than said last time slot of said subsequent time frame as said configuration channel for transmitting configuration messaging.